



US 20160092396A1

(19) **United States**(12) **Patent Application Publication****Rusu**(10) **Pub. No.: US 2016/0092396 A1**(43) **Pub. Date: Mar. 31, 2016**(54) **METHOD AND APPARATUS FOR STACKING
A PLURALITY OF CORES**(57) **ABSTRACT**(71) Applicant: **INTEL CORPORATION**, SANTA
CLARA, CA (US)(72) Inventor: **Stefan Rusu**, Sunnyvale, CA (US)(21) Appl. No.: **14/498,353**(22) Filed: **Sep. 26, 2014****Publication Classification**(51) **Int. Cl.****G06F 15/76** (2006.01)**H05K 3/00** (2006.01)**H05K 1/18** (2006.01)**H05K 3/30** (2006.01)(52) **U.S. Cl.**CPC **G06F 15/76** (2013.01); **H05K 3/303**
(2013.01); **H05K 3/0008** (2013.01); **H05K**
1/181 (2013.01); **H05K 2203/167** (2013.01);
H05K 2201/095 (2013.01)

An apparatus and method are described for stacking a plurality of cores. For example, one embodiment of an apparatus comprises: a package; an uncore die mounted on the package, the uncore die comprising a plurality of exposed landing slots, each landing slot including an inter-die interface usable to connect vertically to a cores die, the uncore die including a plurality of uncore components usable by cores within the cores die including a memory controller component, a level 3 (L3) cache, a system memory or system memory interface, and a core interconnect fabric or bus; and a first cores die comprising a first plurality of cores, the cores spaced on the first cores die to correspond to all or a first subset of the landing slots on the uncore die, each of the cores having an inter-die interface positioned to be communicatively coupled to a corresponding inter-die interface within a landing slot on the uncore die when the first cores die is vertically coupled on top of the uncore die, wherein the communicative coupling between the inter-die interface of a core and the inter-die interface of its corresponding landing slot communicatively couples the core to the uncore components of the uncore die.

